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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,891	03/19/2003	Richard Michael Gooch	2101/50761	6827
23911	7590	10/06/2003	EXAMINER	
CROWELL & MORING LLP INTELLECTUAL PROPERTY GROUP P.O. BOX 14300 WASHINGTON, DC 20044-4300			DOUGHERTY, ANTHONY T	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/089,891

Applicant(s)

GOOCH ET AL. 

Examiner

Anthony T. Dougherty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6. 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 1 objected to because of the following informalities: On line 4 of claim 1 for clarity "in respect of the second part" should be changed to "with respect to the second part". Appropriate correction is required.

2. Claim 2 objected to because of the following informalities: On line 15 of claim 2 for clarity "indicating the calculated the assembly point" should be changed to "indicating the calculated assembly point". Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-13 rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,380,978 to Pryor.

With regard to claim 1, Pryor discloses locating an assembly point on a first part at which point the first part is joined to a second part (see abstract) by measuring and determining an assembly location with respect to a second part (see column 20 line 16 through line 39 & column 21 line 1 through line 11), measuring a portion of a surface of a first part (see column 24 line 31 through line 38), the surface being spaced away from the second part (see Figures 5a and 5b), so

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as to define the position and orientation of the surface (see column 48 line 6 through line 13), calculating the assembly point on the surface of the first part (see column 24 line 38 through line 47), the surface of the first part intersected by a vector passing between the assembly location and the surface of the first part (see Figures 5a and 5b).

With regard to claim 2, Pryor discloses locating an assembly point on a first part at which point the first part is joined to a second part (see abstract) by determining an assembly location with respect to a second part (see column 20 line 16 through line 39 & column 21 line 1 through line 11), offering up the first part for assembly with the second part with the first part overlying the assembly location (see Figures 5a and 5b), measuring a portion of a surface of a first part (see column 24 line 31 through line 38), the surface being spaced away from the second part (see Figures 5a and 5b), so as to define the position and orientation of the surface (see column 48 line 6 through line 13), calculating the assembly point on the surface of the first part (see column 24 line 38 through line 47), the surface of the first part intersected by a vector passing between the assembly location and the surface of the first part (see Figures 5a and 5b), and indicating the assembly point on the surface of the first part (see column 21 line 12 through line 24).

With regard to claim 3, and applying the rejection of claim 2 above, Pryor discloses determining a reference position fixed relative to the second part (see column 14 line 17 through line 22).

With regard to claim 4, and applying the rejection of claim 3 above, Pryor discloses determining the assembly location is performed by a measuring device in a first position and determining the reference position and measuring a surface of the first part is performed by

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either the same device or another device in a second position (see column 23 line 29 through line 30).

With regard to claim 5, and applying the rejection of claim 4 above, Pryor discloses measuring from the first and second positions are performed subsequent to offering up the first part for assembly with the second part (see column 24 line 25 through line 47), with the first part overlying the assembly location (see column 24 line 25 through line 26 & Figures 5 a and 5b).

With regard to claim 6, and applying the rejection of claim 1 above, Pryor discloses at least one of the measuring step or the step of indicating is performed by a measuring device of known position (see column 15 line 19 through line 21 & column 17 line 32 through line 39).

With regard to claim 7, and applying the rejection of claim 6 above, Pryor discloses measuring the vector and the distance to a datum position associated with the second part (see column 14 line 17 through line 22 & column 21 line 1 through line 11), from a measuring device of known position (see column 15 line 19 through line 21 & column 17 line 32 through line 39), and determining the position of the assembly location relative to the measured datum position using stored CAD data (see column 17 line 48 through line 50).

With regard to claim 8, and applying the rejection of claim 1 above, Pryor discloses verifying that the position and orientation of the surface of the first part relates in a predetermined manner to the position and orientation of the surface of the second part local to the determined assembly location (see column 24 line 25 through line 47 and Figures 5a and 5b).

With regard to claim 9, and applying the rejection of claim 1 above, Pryor discloses determining the assembly location is carried out using a retro-reflector supported relative to a

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guide hole located in the second part (see column 47 line 52 through line 56 & column 18 line 43 through line 53 & column 21 line 7 through line 11).

With regard to claim 10, and applying the rejection of claim 1 above, Pryor discloses at least one of the measuring step or the step of indicating is carried out using a non-contact technique (see column 48 line 28 through line 37).

With regard to claim 11, and applying the rejection of claim 10 above, Pryor discloses at least one of the measuring step or the step of indicating is carried out using a laser tracking device (see column 14 line 48 through line 51).

With regard to claims 12 and 13, and applying the rejection of claim 1 above, Pryor discloses the steps of measuring, calculating and indicating is performed by program code stored and run on a computer (see column 14 line 67 through column 15 line 15 & column 3 line 13 through line 15 and abstract).

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,910,894 to Pryor because it teaches assembly of parts using laser tracking and surface orientation and position measurements with CAD data.

U.S. Patent No. 5,010,634 to Uemura et al. because it teaches assembly of parts using surface orientation and position measurement with laser scanning and CAD data.

U.S. Patent No. 4,851,905 to Pryor because it teaches assembly of parts using visual alignment and CAD data with surface orientation and position measurement.

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U.S. Patent No. 5,646,859 to Petta et al. because it teaches a laser scanner that projects an image for assembly of a truss.

U.S. Patent No. 5,148,591 to Pryor because it teaches assembling parts using CAD data and imaging for alignment with surface orientation and position measurement.

U.S. Patent No. 6,230,382 to Cunningham et al. because it teaches assembly of parts by laser scanning and part coordinate system alignment.

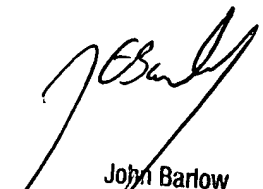
U.S. Patent No. 5,168,453 to Nomaru et al. because it teaches assembly of parts using measured surface orientation and position to compare to stored data to position parts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T. Dougherty whose telephone number is (703) 305-4020. The examiner can normally be reached on Monday through Friday from 8 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on (703) 308-3126. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


atd


John Barlow
Supervisory Patent Examiner
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